IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A mold apparatus for forming at least one metal bump from solder paste for direct placement on bond pads on a secondary substrate, comprising:
a substrate having a substantially flat planar surface;
at least one cavity formed in said surface of said substrate, said cavity having [-]substantially the same dimensions as the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape for forming a first shape of the solder paste [when the substrate is heated] which substantially conforms to the shape of the solder paste to the cavity for transfer to said secondary substrate substantially in the shape of the at least one cavity and a second shape when reheated for the reflow thereof for substantially drawing into a spherical shape held together by the surface tension of the solder material to form an approximately spherically shaped solder ball on a bond pad of said bond pads of said secondary substrate; and
a [nonstick minimally wettable] release layer applied to said at least one cavity and utilized to minimize [for minimizing] the wetting of solder paste on the at least one cavity formed in said surface of said substrate during heating thereof from the heating of the substrate.

2. (Previously Presented) The mold apparatus according to claim 1, wherein said nonstick minimally wettable release layer comprises is a silicon oxide layer.

3. (Previously Presented) The mold apparatus according to claim 1, wherein said nonstick minimally wettable release layer comprises a silicon nitride layer.

4. (Canceled)

5. (Canceled)

6. (Original) The mold apparatus according to claim 1, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

7. (Previously Presented) The mold apparatus according to claim 1, wherein said nonstick protective layer has a thickness ranging from about 200 Angstroms to 5 micrometers.

8. (Original) The mold apparatus according to claim 1, wherein said at least one cavity has a trapezoidal shape.

9. (Original) The mold apparatus according to claim 1, wherein said at least one cavity has a hemispherical shape.

10. (Original) The mold apparatus according to claim 1, wherein said at least one cavity has a rectangular shape.

11. (Original) The mold apparatus according to claim 1, wherein said at least one cavity has a square shape.

12. (Original) The mold apparatus according to claim 1, further comprising:
at least one heating strip located on another surface of said substrate.

13. (Original) The mold apparatus according to claim 1, further comprising:
a plurality of heating strips located on another surface of said substrate.

14. (Original) The mold apparatus according to claim 12, further comprising:
an electrical conductor connected to a portion of the at least one heating strip.

15. (Original) The mold apparatus according to claim 13, further comprising:

an electrical conductor connected to a portion of the plurality of heating strips.

16. (Original) The mold apparatus according to claim 1, wherein said substrate comprises semiconductor material.

17. (Original) The mold apparatus according to claim 1, wherein said substrate comprises ceramic material.

18. (Currently Amended) A solder mold apparatus for forming at least one metal bump from solder paste for direct placement on a corresponding bond pad on a secondary substrate, comprising:

a substrate having a surface;

at least one cavity formed in said surface of said substrate, said cavity having substantially the same dimensions as the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape for forming a first shape of the solder paste [when the substrate is heated] which substantially conforms to the shape of the solder paste to the cavity for transfer to said secondary substrate substantially in the shape of the at least one cavity and a second shape when reheated for the reflow thereof for substantially drawing into a spherical shape held together by the surface tension of the solder material to form an approximately spherically shaped solder ball on a bond pad of said bond pads of said secondary substrate;

a [nonstick a minimally wettable] layer applied to said at least one cavity to minimize [for minimizing] the wetting of solder paste on the at least one cavity formed in the surface of the substrate during heating thereof to remove the solder paste from the substrate after the heating thereof; and

a metal paste applicator.

19. (Previously Presented) The solder mold apparatus according to claim 18, wherein said nonstick minimally wettable layer comprises a silicon oxide layer.

20. (Previously Presented) The solder mold apparatus according to claim 18, wherein said nonstick minimally wettable layer comprises a silicon nitride layer.

21. (Canceled)

22. (Canceled)

23. (Original) The solder mold apparatus according to claim 22, further comprising a metal paste dispenser, coupled to said metal paste applicator, to place a metal paste on said substrate.

24. (Original) The solder mold apparatus according to claim 23, further comprising a heating element to melt said metal paste to form a contact for application to said secondary substrate.

25. (Original) The solder mold apparatus according to claim 18, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

26. (Previously Presented) The solder mold apparatus according to claim 18, wherein said nonstick protective layer has a thickness ranging from above 200 Angstroms to 5 micrometers.

27. (Original) The solder mold apparatus according to claim 18, wherein said substrate comprises semiconductor material.

28. (Original) The solder mold apparatus according to claim 18, wherein said substrate comprises a ceramic material.

29. (Currently Amended) A mold apparatus for forming at least one metal bump from solder paste with a width and a length for direct placement on bond pads on a secondary substrate, comprising:

a substrate having a surface; at least one cavity formed in said surface of said substrate, said at least one cavity having a selected width and a selected length in said surface, said selected width and said selected length being substantially the same as said width and length of the at least one metal bump, said at least one cavity having a shape of one of a trapezoidal shape, a hemispherical shape, rectangular shape, and a square shape for forming a first shape of the solder paste [when the substrate is heated] which substantially conforms to the shape of the solder paste to the cavity for transfer to said secondary substrate substantially in the shape of the at least one cavity and a second shape when reheated for the reflow thereof for substantially drawing into a spherical shape held together by the surface tension of the solder material to form an approximately spherically shaped solder ball on a bond pad of said bond pads of said secondary substrate; and

a [nonstick minimally wettable protective] layer applied to said at least one cavity to minimize [for minimizing] the wetting of solder paste on the at least one cavity formed in said surface of said substrate during heating thereof by the heating of the substrate for removing the solder paste therefrom.

30. (Previously Presented) The mold apparatus according to claim 29, wherein said nonstick minimally wettable layer comprises a silicon oxide layer.

31. (Previously Presented) The mold apparatus according to claim 29, wherein said nonstick minimally wettable layer comprises a silicon nitride layer.

32. (Canceled)

33. (Canceled)

34. (Original) The mold apparatus according to claim 29, wherein said at least one cavity has a depth in said surface of said substrate of about 28 micrometers.

35. (Previously Presented) The mold apparatus according to claim 29, wherein said nonstick protective layer has a thickness ranging from about 200 Angstroms to 5 micrometers.

36. (Original) The mold apparatus according to claim 29, wherein said selected width and said selected length are substantially the same.

37. (Original) The mold apparatus according to claim 29, wherein said selected width is smaller than said selected length.

38. (Canceled)

39. (Original) The mold apparatus according to claim 29, further comprising: at least one heating strip located on another surface of said substrate.

40. (Original) The mold apparatus according to claim 29, further comprising: a plurality of heating strips located on another surface of said substrate.

41. (Original) The mold apparatus according to claim 29, wherein said substrate comprises semiconductor material.